

Claims

1. An air bag apparatus provided with a module case accommodating an inflator having a gas discharging port and an air bag inflated by a gas discharged from the inflator, and a control circuit connected to the inflator, wherein

the module case is provided with a gas ejecting port for ejecting a gas discharged from the gas discharging port of the inflator outside the module case and an adjusting mechanism for adjusting an opening/closing state of the gas ejecting port in a stepless manner, and the adjusting mechanism can be activated by an instruction from the control circuit.

2. An air bag apparatus according to claim 1, wherein the adjusting mechanism for adjusting an opening/closing state of the gas ejecting port in a stepless manner comprises a combination of the gas ejecting port and a valve body opening and closing the gas ejecting port.

3. An air bag apparatus according to claim 2, wherein the valve body moves vertically to a plane of the gas ejecting port, the valve body moves in parallel to a plane of the gas ejecting port, or the valve body rotates around the bar provided over a plane of the gas ejecting port.

4. An air bag apparatus according to claim 2, wherein the valve body opens/closes the port by a combination of a rack and a pinion.

5. An air bag apparatus according to claim 1 or 2, wherein the gas ejecting port for ejecting a gas discharged from the

inflator outside the module case is joined to a pipe having an opening, which opens outside except for the inside of a vehicle where a passenger exists, at the time of mounting the air bag apparatus to an automobile.

6. An air bag apparatus according to claim 1 or 2, wherein the adjusting mechanism for adjusting the opening/closing state of the gas ejecting port in a stepless manner adjusts the opening/closing state of the gas ejecting port in a stepless manner according to one or two or more factors selected from the group consisting of a sitting attitude of a passenger, whether or not a passenger wears a seatbelt, a sitting position of a passenger, the weight of a passenger, an environment temperature and a vehicle speed, and an amount of a gas flowing into the air bag is adjusted.

7. An air bag apparatus provided with a module case accommodating an inflator having a gas discharging port and an air bag inflated by a gas discharged from the gas discharging port of the inflator, and a control circuit connected to the inflator, wherein

a movable coolant means which covers the gas discharging port of the inflator from the outside is disposed inside the module case, the coolant means is movable to be adjustable in a stepless manner in the range from the state that the movable coolant means covers the gas discharging port completely to the state that the movable coolant means does not cover the gas discharging port, and the adjusting mechanism in the movable state is activated by an instruction from the control circuit.

8. An air bag apparatus according to claim 7, wherein the adjusting mechanism of the coolant means in a movable state is movable in the axial direction of the inflator.

9. An air bag apparatus according to claim 7 or 8, wherein the adjusting mechanism of the coolant means in a movable state comprises a combination of a rack and a pinion.

10. An air bag apparatus according to claim 7 or 8 wherein the adjusting mechanism of the coolant means in a movable state adjusts a position of the coolant means in a stepless manner according to one or two or more factors selected from the group consisting of a sitting attitude of a passenger, whether or not a passenger wears a seatbelt, a sitting position of a passenger, the weight of a passenger, an environment temperature and a vehicle speed, and temperature of a gas flowing into the air bag is adjusted.

11. An air bag apparatus provided with a module case accommodating an inflator having a gas discharging port and an air bag inflated by a gas discharged from the gas discharging port of the inflator, and a control circuit connected to the inflator, wherein

a movable cap which covers the gas discharging port of the inflator from the outside is disposed inside the module case, the cap is movable to be adjustable in a stepless manner in the range from the state that the cap covers part of the gas discharging port to the state that the cap does not cover the gas discharging port, and the adjusting mechanism in a movable state is activated by an instruction from the control circuit.

12. An air bag apparatus according to claim 11, wherein the adjusting mechanism of the cap in a movable state is movable in the axial direction of the inflator.

13. An air bag apparatus according to claim 11 or 12, wherein the adjusting mechanism of the cap in a movable state comprises a combination of a rack and a pinion.

14. An air bag apparatus according to claim 11 or 12, wherein the adjusting mechanism of the cap in a movable state adjusts an opening/closing state of the gas ejecting port in a stepless manner according to one or two or more factors selected from the group consisting of a sitting attitude of a passenger, whether or not a passenger wears a seatbelt, a sitting position of a passenger, the weight of a passenger, an environment temperature and a vehicle speed, and an amount of a gas flowing into the air bag is adjusted.